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Chinese Consumers Substitute Burgers for Bacon in 2017

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Report Highlights:

Implementation of strict environmental regulations will further constrain China's sow herd recovery in 2017. Post is decreasing its 2017 starting sow estimate by 12 percent to 38 million head. This reduction will impact the 2017 pig crop, decreasing domestic pork production to 51 million metric tons (MMT). Even at their current record levels, increased imports will only partially offset this production decrease, causing domestic pork prices to continue to rise and leading to a 2.6 MMT drop in overall pork consumption to 52 MMT.

But as pork consumption declines, Chinese consumers are expected to consume more beef. Due to stable cattle prices, China's cattle industry will increase inventory in 2017 to meet rising domestic consumption. However, the gap between domestic production and demand continues to grow, pushing beef imports to a record of nearly 1 million MT.

SWINE:

Implementation of new environmental restrictions leave some producers squealing

In 2016, China's Ministry of Agriculture announced the 13th Five-Year Plan for Agriculture. One of the major themes of the 13th Plan was the goal to improve environmental protections by moving swine production away from waterways and crowded urban populations, effectively shifting production west and northeast. In order to implement this goal, more than 20 Provincial Governments set up Development Control Areas (DCAs) within their provinces. These DCAs are established based on specific criteria set by the provincial governments, but generally establish areas near waterways and urban populations where swine operations are prohibited. The chart below shows where most DCAs are located, effectively creating different Environmental Control Zones for the swine industry. For example, within the Development Control Zone (shown in red), it will be difficult (but not impossible) to conduct swine operations due to the high number of DCAs in that area. In contrast, the Development Focus Zone (in green) has fewer DCAs. Out towards the west, (i.e., Sichuan and Chongqing), there are fewer waterways and the central government also benefits from the new job growth. Up towards the northeast lies China's Corn Belt, where close proximity to major grain producing regions will lower the feed shipping costs and provide more opportunities for on-farm manure management.



Data Source: Chinese industry

Implementation of Development Control Areas will reduce China's overall swine herd

In 2017, all swine farms located within DCAs must be moved or destroyed. Chinese industry reports that the implementation of these DCAs has led to an overall 3.6 million pig inventory reduction, thus far. In some of the well-developed economic areas like Zhejiang and Jiangsu, swine inventory reductions have already reached 50 percent. Some large swine farming provinces like Shandong, Guangdong, and Jiangsu have committed to clear out swine farms located inside DCAs in 2017, which will lead to further swine inventory reductions.

Low sow herd starting numbers create domino effect throughout entire value chain

China's sow herd fell to low levels in the beginning of 2016 as a result of large-scale culling due to low pork prices. Post had forecast that sow numbers would begin to quickly recover in 2017 due to increasing pork prices and lower feed prices. However, due to strict enforcement of Chinese environmental regulations for the swine industry, the sow herd recovery has been slower than expected. Accordingly, Post is revising down its 2017 sow herd beginning forecast by 12 percent to 38 million head. This lower starting sow herd number will necessarily constrain overall hog production numbers. Therefore, Post lowers its 2017 swine slaughter forecast to 625 million head.

As noted above, swine farms are being relocated from the south and east of China to the Northeast and Western parts of China. The rationale behind this move is four-fold: (1) move swine operations away from vulnerable areas, such as crowded urban areas and water-ways; (2) push the consolidation of small- and medium-farms to larger operations that have the necessary access to capital to invest in environmental improvements; (3) push the swine operations to the Northeast and West to spur economic growth in those areas; and (4) shift swine production towards China's Corn Belt in the Northeast to reduce feed costs.

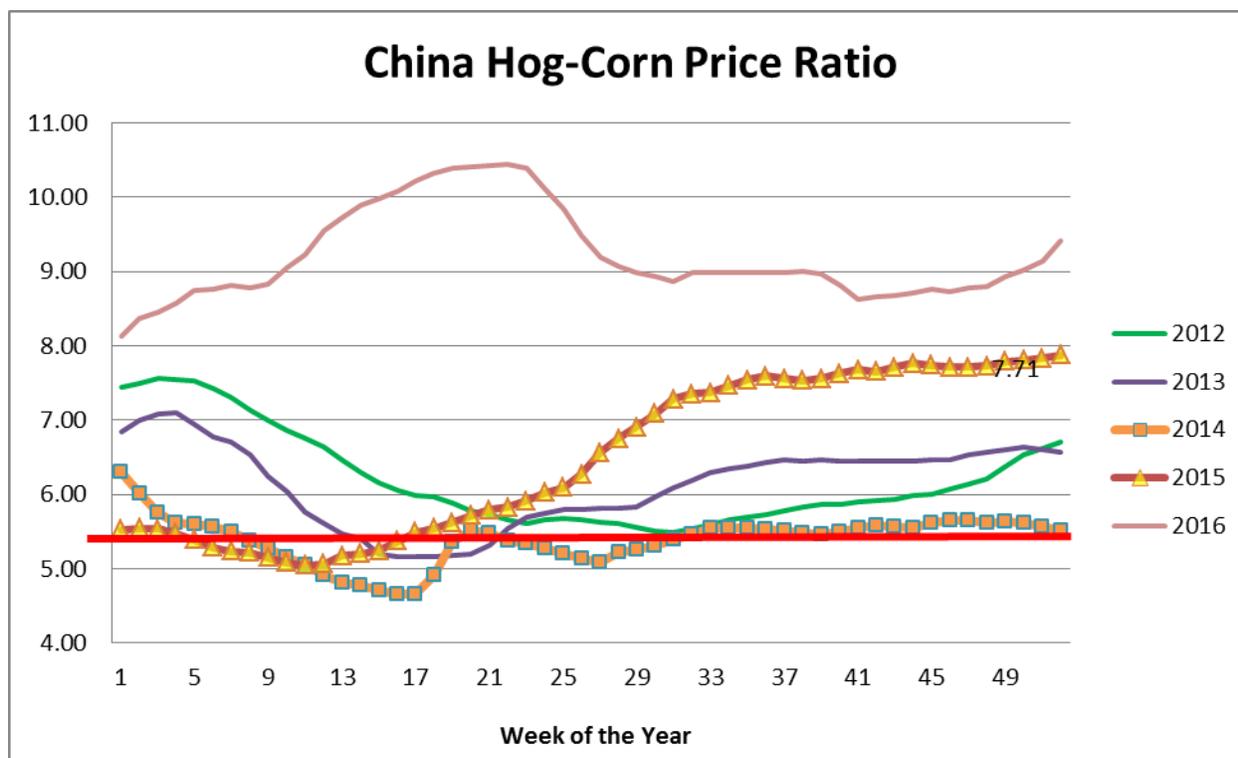
In addition to establishing DCAs, China has also instituted areas to limit the size of swine farming. Together, these heightened environmental rules have forced many swine facilities to direct over 40 percent of total capital costs towards overhauling and augmenting their environmental control systems. These additional regulatory compliance costs will serve to further marginalize small- and medium-sized operations, and contribute to a further consolidation of the swine industry.

As China makes this shift in production, Post anticipates that the output and market share of these large farms will increase in 2017, possibly reaching 25 - 30 percent of total swine production.

Feed costs to remain low as China's central government continues to deplete corn reserves

In China, corn makes up about 70 percent of total swine feed. With the hog-corn price ratio well above the break-even point in 2016, Post forecasts feed costs in 2017 will remain low as the central government still plans to liquidate more of its massive corn reserve back into the market.

Nevertheless, feed costs for Chinese hog producers are much higher than the feed costs for U.S. farmers. One of the main reasons is that China has to import most of its feed from overseas, driving up costs.



Swine imports to increase in 2017 due to demand for high-quality genetics

2017 swine imports are forecast at 20,000 head—double the number in 2016 (but still below levels in 2013). This sharp increase is primarily a result of China’s push to import high-quality genetics. Imports from Canada dominate about 50 percent of the market, followed by the EU and the United States, at 21 percent and 13 percent respectively. In provinces like Sichuan, the local government aims to enrich the diversity of their genetic pool by introducing more breeding stock from the United States in 2017 and has set up subsidy funding to support more U.S. imports this year.

Swine exports remain minimal

China’s swine exports are negligible. Post forecasts 2017 exports will continue to decrease due to high domestic prices. China mainly exports to Hong Kong and Macau.

Overseas swine feeding at the China trough for now, but how long will the gravy train last?

As mentioned above, China’s 13th 5-Year Plan for Agriculture sets forth goals to consolidate and modernize the swine industry. One way that China is trying to improve its overall hog production is through importing high-quality genetics from the EU and to a lesser extent, the

United States. Some provinces are offering subsidies to swine farm operators who import foreign genetics.

However, China is also angling for self-sufficiency in animal husbandry. As stated in the Number One Agricultural Document, China is making it a priority to develop China's animal husbandry resources.¹ To hasten this work, MOA published Bulletin 2460, which sets explicit quality requirements for imported livestock genetics (swine, cattle, and poultry). Many of China's trading partners are concerned that this new regulation will be later used to limit access and protect China's nascent animal husbandry industry at a later date.

MEAT (PORK)

Overall domestic production down, but large hog operations see increase in efficiency

Post forecasts that pork production will decrease by 4 percent to 50.9 million tons in 2017, constrained by the slow recovery of the sow herd and stricter environmental laws.

However, as China consolidates and modernizes its swine industry, the total volume and market share of pork production from large companies, especially fully-integrated operations, will further increase. Due to the combination of better genetics, modern facilities, and high-quality feed, these larger operations are making strong gains in terms of feed to weight ratios and meat quality. The increased efficiencies from these larger operations will help to offset the current low herd sizes.

Chinese consumers pig out on substitute proteins

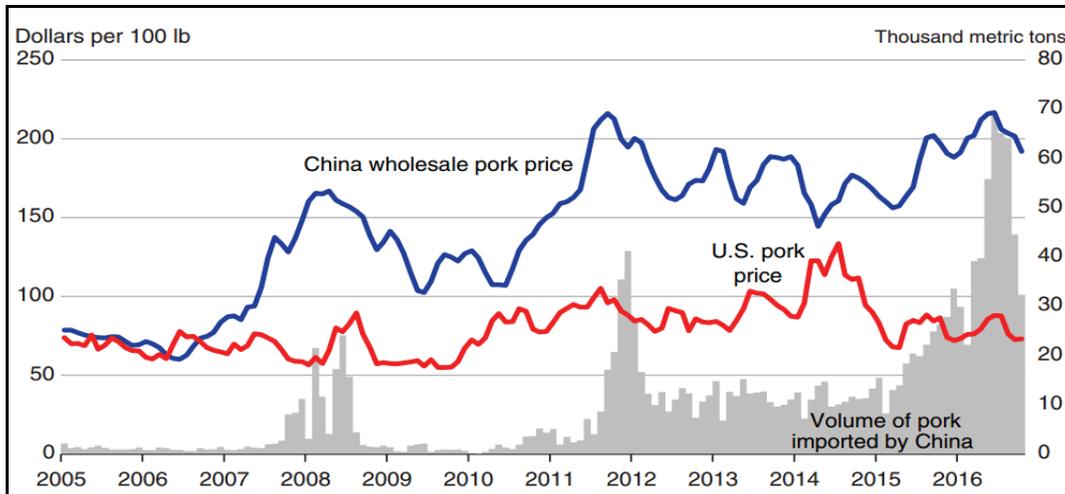
While pork is still the main meat protein source for most Chinese consumers (roughly 60 percent), Post is lowering its consumption forecast from 55.8 MMT to 53.2 MMT—a 5 percent decrease. With pork at or near record prices, middle and high end consumers have shifted to beef, mutton, and seafood consumption, which many Chinese consumers view as more healthy alternatives.

Pork imports go hog-wild

Post forecasts that imports will continue to grow in 2017, reaching 2.4 MMT. Domestic restocking is dampened by the stricter environmental law implementation and imports are expected to fill the current supply gap. Imports from the EU will continue to increase with Germany and Spain as the leading exporters. Although U.S. exports may be slightly affected by the appreciation of the U.S. dollar towards the RMB, U.S. pork import prices are still relatively low compared to the higher Chinese domestic pork prices and have generally lead to higher import volumes (see chart below).²

¹ See [GAIN Report CH17006](#).

² For more information on Chinese pork import prices, see [China's Pork Imports Rise Along with Production Costs](#).



Data Source: Table provided by USDA ERS using MOA and USDA data

CATTLE

Steady beef prices spur increased production

China’s domestic beef cattle herd has been increasing at a steady rate. Beef prices have been stable and started recovering since September of 2016, enhancing farmers’ confidence and driving them to expand their herd sizes. While the overall economy may be slowing down, creating a dearth of stable investment opportunities, China investors have been largely optimistic that beef demand will continue to outstrip supply and are investing in expanding beef cattle operations. While China’s beef cattle industry is still dominated by small backyard farms, these small farms are inefficient and lack the expertise and experience of the large-scale operations found in Brazil and the United States. According to industry sources, the average slaughter weight for large scale farms in China is 500-600 kilograms per carcass, while the slaughter weight for small backyard farms varies greatly is much lower.

Province	Inventory (M)	% of Total
Yunnan	688.2	9%
Henan	650.4	9%
Sichuan	561.8	8%
Xizang	471.3	6%
Qinghai	429.6	6%
Inner Mongolia	423.2	6%
Jilin	420.8	6%
Gansu	420.1	6%
Hunan	358.1	5%
Guizhou	349.6	5%
Liaoning	344.2	5%
Shandong	330.4	4%
Heilongjiang	313.0	4%
Jiangxi	260.9	4%
Hubei	242.0	3%



Data Source: China Ministry of Agriculture, 2015 statistics

In terms of dairy cattle, Post forecast in October of 2016 that dairy cow inventories would decrease another 10 percent from 2016’s beginning stocks as a result of low fluid milk prices. This forecast remains unchanged.

Live cattle imports drop due to constrained supply from Australia

China generally imports live cattle to improve its domestic genetics. In 2016, Australia accounted for over 70 percent of total Chinese live cattle imports, with New Zealand accounting for the remaining 30 percent. Much of this increase is a result of Chinese investors buying up Australian beef cattle farms.³ However, because of a massive herd reduction in Australia due to severe drought, poor pastures, and rising international prices, the Australian herd hit a 20-year low in 2016.⁴ As the Australian herd begins rebuilding, Post forecasts that China’s overall live cattle imports will decrease 8.3 percent due to the constrained supply.

China’s Live Cattle Imports							
(head of cattle)							
Exporting Country	2011	2012	2013	2014	2015	2016	Market Share (2016)
Australia	53570	55912	66530	117906	89157	92935	70%
New Zealand	25362	36632	31546	77681	13236	40111	30%
Thailand	1	141600	0	130	240	0	
Chile	0	0	0	0	22817	0	
Uruguay	23936	24440	0	120245	3825	0	
Total	102869	258595	98076	315974	129295	133075	100%
Data Source: GTIS							

Live cattle exports do not wander far from the range

China exports a very small number of live cattle, mainly to Hong Kong (which accounts for 90 percent of all live cattle exports from China) and Macau.

New genetic quality requirements could be a barbed-wire fence to future imports

Across China, government subsidies (e.g., tax exemptions and state-funded infrastructure projects) support the live cattle industry. Development of a self-sustaining domestic beef cattle industry is a strategic Chinese goal. The 2017 Number One Agricultural Document states, “[China] should accelerate the [genetic] variety improvement and make every effort to develop the cattle . . . animal husbandry [industry].” In support of this goal, MOA published Bulletin 2460, which sets strict quality requirements on imported livestock genetics. Because of the diversity of factors that contribute to improved cattle production (e.g., environment, feed, handling, veterinary care, etc.), global suppliers of live cattle are dubious that setting explicit

³ For more information on Chinese acquisitions of Australian cattle, see [GAIN Report CH16043](#).

⁴ For more information on the status of the Australian herd recovery, see [GAIN Report AS1615](#).

quality requirements (e.g., all imported bulls have to be rated in the top 10 percent of bulls from the exporting country) will actually improve Chinese cattle production. Furthermore, the requirements are quite ambiguous and may prove difficult to meet from a scientific/technical point of view. Therefore, it remains a policy concern that China may invoke these quality requirements at a later time to protect its domestic animal husbandry industry.

MEAT (BEEF/VEAL)

Beef production numbers moooove higher to meet increased demand

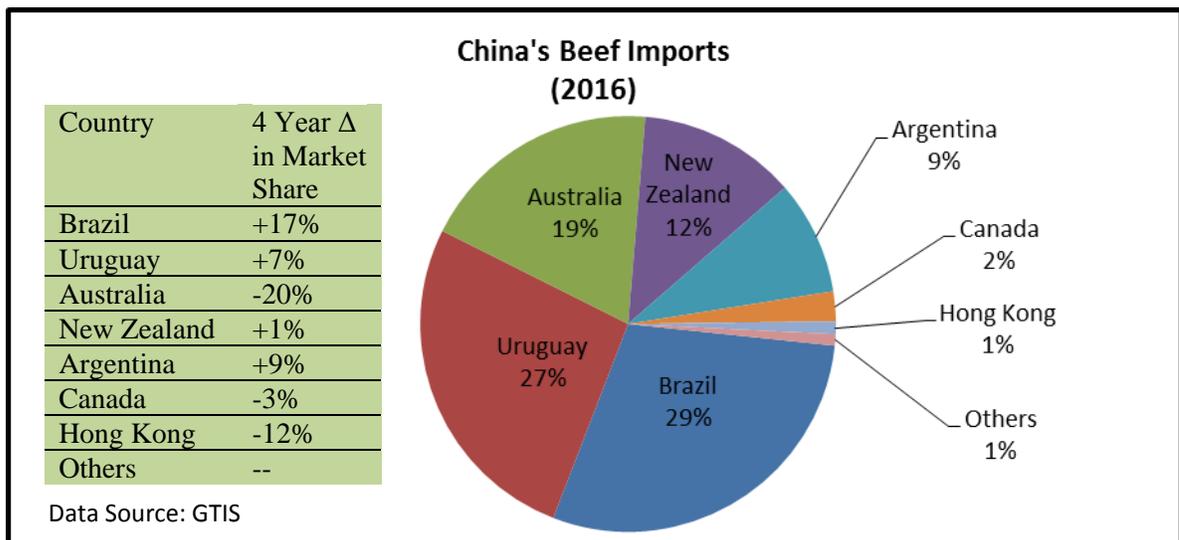
Post forecasts that domestic beef production will continue to steadily increase in 2017, supported by increasing domestic demand. Due to anticipated decreases in poultry consumption and increases in domestic beef consumption, Post has slightly revised its 2017 production forecast up from 7.0 million tons to 7.1 million tons.

Chinese consumers feast on beef

Post is revising its 2017 forecast up from 7.9 MMT to 8.0 MMT. With the urbanization process and increased living standard among Chinese consumers, beef consumption has been increasing in China. High pork prices have also been a factor in pushing upper-middle and high-class consumers shift to beef consumption. E-commerce is also becoming a fast-growing channel for marketing premium cuts of frozen beef to affluent, convenience-oriented consumers.

Beef imports from South America sizzle

Imports will continue to grow as the gap between domestic supply and demand widens. Post’s forecast for 2017 remains firm at 950,000 MT, which is an annual increase of 15 percent from 2016. The majority of import demand will be met by South American countries led by Brazil, Uruguay, and Argentina. Lower exchange rates and increasing numbers of approved export plants continue to support Brazil’s prominence in the market.



Overall beef imports from Australia will go down in 2017, due to the low herd size and domestic recovery efforts. However, China’s imports of grain-fed beef from Australia are on the rise, since Chinese consumers reportedly prefer Australia grain-fed beef over South American grass-fed beef. Furthermore, the free trade agreement between China and Australia will realize its third round of tariff reductions in 2017, potentially giving a boost to Australian imports.

The United States continues to lack access to the China beef market. See Policy section below.

Where’s the beef? U.S. beef still blocked from Chinese market by de-facto ban

China still maintains a de-facto ban on U.S. beef imports, despite the OIE restoring the United States’ BSE-risk status to “negligible” (the highest status available) in 2013. U.S. beef has been banned from the Chinese market since the December 2003 discovery of BSE in the United States. While MOA and AQSIQ jointly announced a conditional lifting of the ban in September of 2016, no actual trade can begin until the United States and China reach a bilateral agreement on traceability and import protocol requirements.⁵ To date, no such consensus has been reached.

If China resumes imports of U.S. beef in 2017, Post expects that initial import numbers will be modest, mainly due to the relatively higher prices of U.S. beef. However, with the current high levels of U.S. beef inventories, a reopened China market could absorb some of the growing supply.

Major Exporters	Current situation
Australia	Exports mainly grass fed with small quantities of grain fed. Although prices are rising, they are generally cheaper than North American beef. Australia is currently the only country that can export chilled beef to the China market.
Uruguay	Lower priced beef offers a value choice in the market.
New Zealand	Mainly grass fed and generally cheaper than Australian beef.
Argentina	Mid-priced compared to other imports. Exports mainly grass fed
Canada	Price is relatively expensive, limiting export quantities.
Brazil	The largest beef supplier to China after China lifted its 2012 BSE-related ban in 2015.

⁵ For more information on the lifting of the ban in 2016, see [GAIN Report CH16050](#)

TABLES

Table 1: Swine PSD

Animal Numbers, Swine Market Begin Year China	2015		2016		2017	
	Jan 2015		Jan 2016		Jan 2017	
	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Total Beginning Stocks	465830	465830	451130	451130	420300	402500
Sow Beginning Stocks	47000	47000	41000	40000	43250	38000
Production (Pig Crop)	696600	696600	620000	620000	672500	600500
Total Imports	4	4	5	9	10	20
Total Supply	1162434	1162434	1071135	1071139	1092810	1003020
Total Exports	1696	1696	1500	1450	1500	1300
Sow Slaughter	0	0	0	0	0	0
Other Slaughter	708250	708250	648200	666000	665000	625000
Total Slaughter	708250	708250	648200	666000	665000	625000
Loss	1358	1358	1135	1189	1110	1110
Ending Inventories	451130	451130	420300	402500	425200	375610
Total Distribution	1162434	1162434	1071135	1071139	1092810	1003020

*Note: This is not official USDA data. For official numbers, please visit <http://www.fas.usda.gov/psdonline>
**Figures in 1,000 head

Table 2: Pork PSD

Meat, Swine Market Begin Year China	2015		2016		2017	
	Jan 2015		Jan 2016		Jan 2017	
	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Slaughter (Reference)	708250	708250	648200	666000	665000	625000
Beginning Stocks	0	0	0	0	0	0
Production	54870	54870	51850	52990	53750	50900
Total Imports	1029	1029	2400	2015	2300	2400
Total Supply	55899	55899	54250	55005	56050	53300
Total Exports	231	231	180	133	180	130
Human Dom. Consumption	55668	55668	54070	54872	55870	53170
Other Use, Losses	0	0	0	0	0	0
Total Dom. Consumption	55668	55668	54070	54872	55870	53170
Ending Stocks	0	0	0	0	0	0
Total Distribution	55899	55899	54250	55005	56050	53300

*Note: This is not official USDA data. For official numbers, visit <http://www.fas.usda.gov/psdonline>
**Figures in 1,000 head/1,000 MT CWE

Table 3: Cattle PSD

Animal Numbers, Cattle	2015		2016		2017	
	Jan 2015		Jan 2016		Jan 2017	
China	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Total Cattle Beg. Stocks	100450	100450	100275	100275	100085	99173
Dairy Cows Beg. Stocks	15500	15500	15600	15600	14000	14000
Beef Cows Beg. Stocks	50700	50700	52000	52000	53000	53000
Production (Calf Crop)	49000	49000	50000	50000	50500	50500
Total Imports	129	129	150	120	160	110
Total Supply	149579	149579	150425	150395	150745	149783
Total Exports	12	12	10	17	10	10
Cow Slaughter	0	0	0	0	0	0
Calf Slaughter	0	0	0	0	0	0
Other Slaughter	48000	48000	49125	50000	49500	50500
Total Slaughter	48000	48000	49125	50000	49500	50500
Loss	1292	1292	1205	1205	1235	1205
Ending Inventories	100275	100275	100085	99173	100000	98068
Total Distribution	149579	149579	150425	150395	150745	149783

*Note: This is not official USDA data. For official numbers, please visit <http://www.fas.usda.gov/psdonline>
**Figures in 1,000 head/1,000 MT

Table 4: Beef and Veal Meat PSD

Meat, Beef and Veal	2015		2016		2017	
	Jan 2015		Jan 2016		Jan 2017	
China	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Slaughter (Reference)	48000	48000	49125	50000	49500	50500
Beginning Stocks	0	0	0	0	30	30
Production	6700	6700	6900	7000	6950	7070
Total Imports	663	663	825	820	950	950
Total Supply	7363	7363	7725	7820	7930	8050
Total Exports	24	24	22	24	20	20
Human Dom. Consumption	7339	7339	7673	7766	7890	8010
Other Use, Losses	0	0	0	0	0	0
Total Dom. Consumption	7339	7339	7673	7766	7890	8010
Ending Stocks	0	0	30	30	20	20
Total Distribution	7363	7363	7725	7820	7930	8050

*Note: This is note official USDA data. For official numbers, please visit <http://www.fas.usda.gov/psdonline>
**Figures in 1,000 head/1,000 MT

Table 5: Pork Price Table

China National Retail Pork Prices on Average, 2012-2016 (Units in RMB/KG)						
	2012	2013	2014	2015	2016	% Change 2015/16
January	27.83	26.43	24.37	22.37	27.66	23.6%
February	27.36	26.32	22.98	22.02	28.86	31.1%
March	25.79	23.96	21.49	21.44	28.97	35.1%
April	24.36	22.03	19.70	21.54	30.20	40.2%
May	23.31	21.48	20.86	22.33	30.97	38.7%
June	22.78	22.81	21.69	23.30	37.6	61.4%
July	22.61	23.43	21.91	25.81	30.24	17.2%
August	22.94	24.72	23.23	28.06	29.70	5.8%
September	23.80	25.39	23.90	28.27	29.6	4.7%
October	23.92	25.24	23.60	27.54	28.24	2.5%
November	23.76	25.07	23.17	26.69	27.93	4.6%
December	24.82	25.22	22.88	26.76	28.21	5.2%

Source: The Ministry of Agriculture collected from over 400 markets of farm produce.

Table 6: Live Hog Price Table

China Live Hog Prices on Average, 2012-2016 (Units in RMB/KG)						
	2012	2013	2014	2015	2016	% Change 2015/16
January	17.65	17.04	14.46	13.38	17.62	31.7%
February	17.10	16.09	13.11	12.71	18.37	44.5%
March	15.83	14.07	12.05	12.27	18.90	54.0%
April	14.80	12.80	11.12	12.91	19.84	53.7%
May	14.25	12.48	12.79	13.92	20.45	46.9%
June	14.05	14.10	13.06	14.87	20.41	37.3%
July	14.00	14.61	13.34	16.86	19.03	12.87%
August	14.28	15.70	14.56	18.15	18.62	2.59%
September	14.89	16.04	14.88	17.86	18.36	2.8%
October	14.85	15.86	14.42	17.10	16.88	-1.3%
November	14.83	15.77	14.09	16.45	16.98	3.2%
December	15.83	15.92	13.81	16.71	17.46	4.5%

Source: The Ministry of Agriculture collected from over 400 markets of farm produce.

Table 7: Piglet Price Table

China Piglet Prices on Average, 2012-2016 (United in RMB/KG)						
	2012	2013	2014	2015	2016	% Change 2015/16
January	30.21	27.41	24.36	19.29	32.18	66.8%
February	31.50	27.79	23.22	19.21	35.05	82.5%
March	32.66	26.90	22.76	20.09	40.77	102.9%
April	32.24	25.26	21.84	23.07	47.30	105.0%
May	31.56	24.89	22.99	25.75	51.01	98.1%
June	30.55	27.09	23.79	27.78	52.39	88.6%
July	29.69	28.44	23.55	31.13	49.11	57.8%
August	28.74	29.71	24.29	34.33	47.06	37.1%
September	28.82	29.87	24.53	34.16	45.7	33.8%
October	27.72	28.30	23.20	31.99	41.15	28.64%
November	25.86	26.43	21.38	29.73	39.06	31.4%
December	26.06	25.72	20.14	29.62	38.88	31.2%

Source: The Ministry of Agriculture collected from over 400 markets of farm produce.

Table 8: Beef Price Table

China National Retail Beef Prices on Average, 2012-2016 (Units in RMB/KG)						
	2012	2013	2014	2015	2016	% Change 2015/16
January	41.38	55.26	63.87	63.99	63.38	-1.0%
February	42.03	57.89	64.39	64.75	64.36	-0.6%
March	42.00	57.27	63.32	63.97	63.31	-1.0%
April	42.26	56.99	62.59	63.02	62.85	-0.3%
May	42.79	57.48	62.57	62.61	62.55	-0.1%
June	43.68	58.09	62.56	62.44	62.35	-0.1%
July	44.34	58.56	62.64	62.44	61.98	-0.7%
August	45.34	59.17	62.94	62.78	61.83	-1.5%
September	46.87	60.07	63.35	63.02	62.12	-1.4%
October	48.50	60.78	63.56	63.20	62.15	-1.7%
November	50.23	61.56	63.76	63.29	62.49	-1.3%
December	53.29	62.63	63.97	63.46	62.86	-0.9%

Source: The Ministry of Agriculture collected from over 400 markets of farm produce.